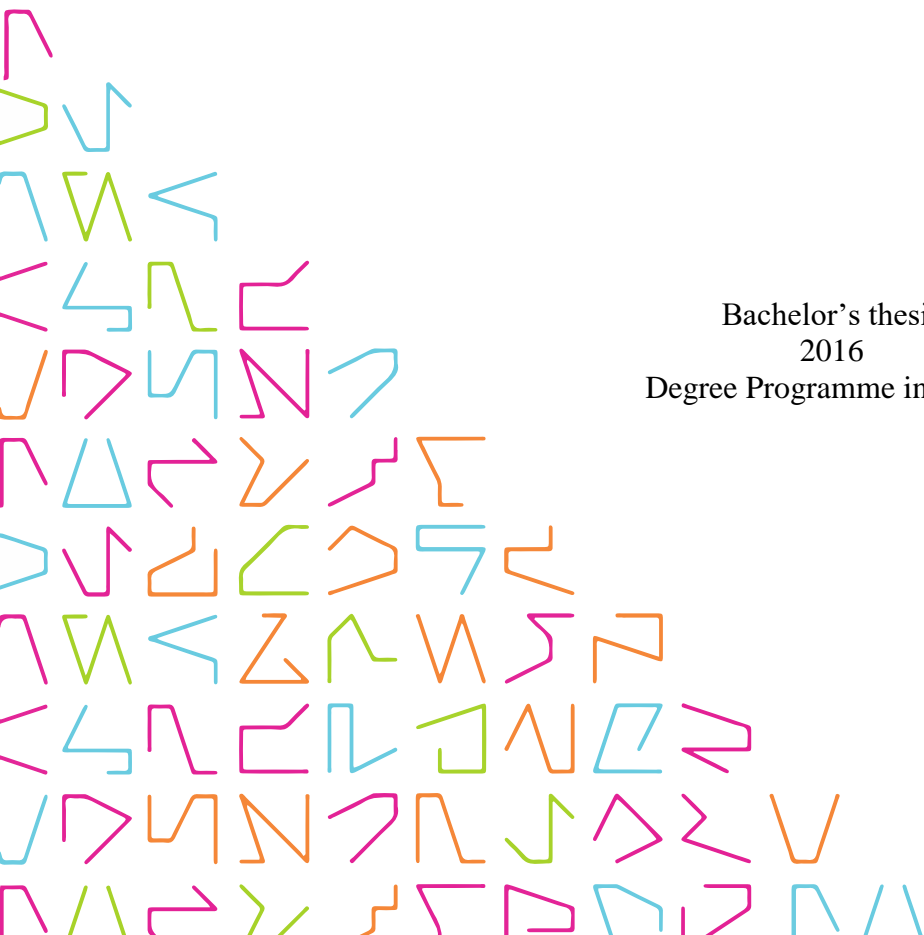


Using Reference in Creating a Digital Painting

Veli Nyström

Bachelor's thesis
2016
Degree Programme in Media



ABSTRACT

Tampereen ammattikorkeakoulu
Tampere University of Applied Sciences
Degree Programme in Media and Arts

NYSTRÖM, VELI:
Using Reference in Creating a Digital Painting

Bachelor's thesis 68 pages
2016

This thesis shows various methods pertaining to how one can use reference when creating a digital painting. The aim of the thesis is to provide a package of useful information and a toolkit for people interested in digital painting as well as for people working in the field.

I also try out some of the methods I have found during this thesis process by making three digital paintings, sharing and analysing the experience, thoughts and feelings that making them evokes.

Based on my personal history with art, I can say that I have used reference in some of my works, and quite often when working with clients. But I have always been somewhat lazy in that aspect - using reference requires more preparing than just starting to paint straight on. Learning new things on a personal level and as an artist is another reason why I chose this topic, so I had to force myself to use reference and find out how it affects my workflow and the final outcome.

Key words: illustration, painting, digital painting, digital, art, reference, graphic design, drawing, visual, marketing, concept art.

CONTENTS

1	INTRODUCTION	6
2	REFERENCE IN ART	7
2.1	Explaining the concept.....	7
2.2	Why is it important to use reference?	7
2.3	Disadvantages	8
2.4	Ethics / Copyrights.....	8
3	APPROACHES	11
3.1	Life drawing.....	11
3.1.1	Modelling	14
3.1.2	Locations and objects.....	15
3.2	Photographs.....	16
3.2.1	Taking your own photos.....	19
3.2.2	Other sources.....	22
3.2.3	Photo bashing	22
3.3	3D.....	27
3.3.1	Traditional 3D	27
3.3.2	Digital 3D.....	28
3.4	Writing	31
3.5	Existing work by others	32
3.6	Memory.....	32
4	IN PRACTICE.....	34
4.1	Painting 1: Mage casting a spell	34
4.1.1	Written notes	34
4.1.2	Costume.....	35
4.1.3	Light setup.....	35
4.1.4	Taking the photo	37
4.1.5	Refine the idea.....	38
4.1.6	More reference	39
4.1.7	Painting	41
4.2	Painting 2: Weird creature	45
4.2.1	Written notes	45
4.2.2	Sketches.....	45
4.2.3	Sculpting	47
4.2.4	Light setup.....	47
4.2.5	Taking the photo	48
4.2.6	Reference sheet	49

4.2.7	Painting	50
4.3	Painting 3: Mountains	55
4.3.1	Sketch	55
4.3.2	Gathering reference	55
4.3.3	Colors	57
4.3.4	Photo bashing	58
4.3.5	Painting	58
4.4	Analysis and thoughts	61
5	CONCLUSION	64
	REFERENCES.....	66

GLOSSARY

life drawing	drawing objects from life right then and there, be it a live model, an environment or something else
thumbnail	a small sketch or drawing of the final image, with the purpose of finding and seeing the image as a whole rather than focusing on details
maquette	scale model, small model or sculpture
tableau	arrangement of objects or models on a surface, can be used to build reference for a whole scene

1 INTRODUCTION

The purpose of this thesis is to research and find out ways to use reference when creating a digital painting. Bruce Wands (2006) mentions that digital imaging is a new media and its history is measured in decades. The results can vary a lot, the final forms of images can resemble traditional art and be printed on different materials, or reside in digital media such as the internet, CD or DVD. Digital technology offers a wide range of tools and more control over the creative process. As an example he uses a graphics tablet, which allows the artist to use a pressure-sensitive stylus and software features emulating traditional drawing and painting tools, but also unique and new ways of drawing. Artists working on two-dimensional images use software such as Adobe Photoshop, which allows an artist to create either pixel-based or vector images. Another group of digital artist works with three-dimensional modelling and animation, which works in a different way. Cameras, lights and objects can be placed in a mathematical space (Wands 2006, 32, 34). Even though there are a lot of tools for making digital images, as 2D and 3D can be combined too, this thesis will focus mostly on two-dimensional images of which final forms perhaps resemble traditional painting the most, out of the different ways to create images digitally.

Using reference when planning and making a painting is a great way of bringing more believability and likeness into the image, but it can also help the artist learn, expand their visual memory or work as a guide when trying to achieve certain feats in the artwork, be it mood, visual style or something else. Also, often it is absolutely necessary to use reference, for example when working on historically or technically accurate images.

Many professional illustrators and artists nowadays work with the digital media, using computers, drawing tablets and various computer programs to create their works. This thesis will cover methods from traditional media such as painting, drawing and building models as those act as a good basis, but the practical part will focus on working on a computer, at least what comes to the final painting.

2 REFERENCE IN ART

This section discusses what ‘using reference’ means, if one should use reference or not and the ethical side of using reference, things that one should think about when doing so.

2.1 Explaining the concept

The definition for reference in art found in Wikipedia (2015) is following: a reference is an item from which a work is based. This may include: an existing artwork, a reproduction (i.e., photo), directly observed object (i.e., person), or the artist's memory (Wikipedia 2015). The word reference can have many meanings, depending on the context according to Oxford Dictionaries (2016). It can be a source of information being cited, using a source of information to verify or check something or the action of alluding to something (Oxford Dictionaries 2016). The point of view in this thesis is to find more information about how one can use reference, source of information, in the process of making a painting.

2.2 Why is it important to use reference?

Reference is something that has many different uses for an artist, but the unifying goal of them all is to make the artwork better. In a blog post at Muddy Colors website, illustrator and artist Donato Giancola (2012) tells about his workflow over the years. He was not happy with the work he did earlier, and the main reason was that he was not using enough time to plan the paintings. Planning, according to Giancola consists of researching the subject, gathering images to look at, finding good reference and getting the right lighting. He also mentions that costumes and actors help a lot in bringing life to the concepts, before actually starting the painting process. (Giancola 2012).

Many times what I chalked up to as artistic and technical inexperience should have been placed in the category of insufficient planning. I would bring my sketches up to a certain level, making sure they were heading in the right general direction, and then launch into the next stage of development before fully working out all issues. Both artistic arrogance and deadlines made me feel confident that I could pull it all together 'later' in the final stages of the work. But what often occurred was that a shoddy

foundation left incomplete in the early phases of image development undermined later decisions, leading to a cascading collapse of the unity and success of the art. (Giancola 2012)

2.3 Disadvantages

As my thesis is mainly talking about using reference in a more positive note, are there any disadvantages to using reference and what are those if there are any?

Using reference can easily lead to copying the reference precisely, which might not be the thing the artist is looking for. Courtney Jordan (2015) writes about reference in art in a blog post for the website Artist Daily. Artist should be attentive and wary when working with photographs, and this claim is backed up by two artists interviewed for the article, Mark Haworth and Denise LaRue Mahlke. Haworth tells that there is a difference between how human eye and the camera sees, what comes to depth of field, color accuracy and the warm and the cool colors in the scene. Mahlke writes that an artist should not follow a photo precisely, and should rather use it as a jumping off point and reinvent the scene (Jordan 2015). It is for the artist to decide, how much reference is used and followed, and what kind of work he or she wants to create.

2.4 Ethics / Copyrights

When using reference, it is important to remember the already existing copyrights. There are a lot of resources around today that one can find and use for reference, but if the reference used belongs to someone else, it is good to make sure it is fine to use it. This depends on how much of the reference is used when creating the artwork, how much of his or her own ideas the artists puts into the image, if the reference falls under being intellectual property of another person or company and for what purpose the final image is used.

An article in The Design and Artists Copyright Society website (2016) answers a few questions related to using other people's works when making a collage. The artist should check if the work that he or she wants to use is protected by copyright, and if it is, the intention of the artwork produced should be considered. If a copyrighted work as a whole or a substantial part of it is copied, the produced work may infringe copyright. Even a small element of the existing work might be considered substantial if it is

particularly integral and recognizable part of the new work that was created (The Design and Artists Copyright Society 2016). Finlex website (2016) informs that in Finnish copyright law, chapter 1 § 4, it is mentioned that if an existing work has been modified by someone and thus a new independent work has been created by doing that, his or her copyright does not depend on the copyright of the previous, already existing work (Finlex 2016). So existing work can be used when creating something new, that can be considered to be an independent piece of work, rather than a derivative work of the already existing work.

Copyright infringement is a crime, and it can have severe consequences. According to a Wikipedia article (2015) the Finnish criminal law, chapter 49 § 1, contains a punishment decree, if a copyright is violated, the violator can be sentenced to pay a fine or to be imprisoned for two years being the maximum sentence. (Wikipedia 2015)

Even if there was no sentence for the violator, copying someone else's work can be seen as a negative thing by others and by that cause other type of harm to the artist who has done so. Kristiina Markkanen (2013), a journalist wrote an article for Helsingin Sanomat which discusses a happening when a fabric design by Kristina Isola was exposed as a copy of a work by the Ukrainian naivist folk painter Maria Pryimachenko (picture 1). Kristina Isola had been for several years and at the time was working as a designer for a Finnish design company Marimekko. In an article published later the same year, concerning both Isola and Marimekko written by Arja Kivipelto (2013), Marimekko declared that the company will end co-operation with the designer Kristina Isola. Marimekko's CEO Mika Ihamuotila states in the article that they have no tolerance towards plagiarism in the company. He also says that trust is an important part of the environment in which art is created, if there is doubt it can hurt the design process (Kivipelto 2013).



PICTURE 1. The Rat on Her Travels (Maria Pryimachenko 1963) and Metsänväki (Kristina Isola 2007) pattern design on the right. (Helsingin Sanomat, Markkanen 2013)

Copyright does not remain forever though. According to Finlex (2016), copyright is in effect, until it has been 70 years from the death of the author (Finlex 2016).

Quotation right is an exception to copyright. Anna Mazgal (2016) writes about the right to quote in Communia Association's website. The right to quote supports and is justified by the freedom of intellectual creation by allowing citations and other uses of works under copyright in different media such as audiovisual material, plays and books. Films, broadcasts, images, all sorts of copyrighted material which with the author's permission have been made public can be quoted. The author's name and the source of the quote must be mentioned. It depends on the context of use and the type of work that is quoted how extensively the work can be quoted (Mazgal 2016).

3 APPROACHES

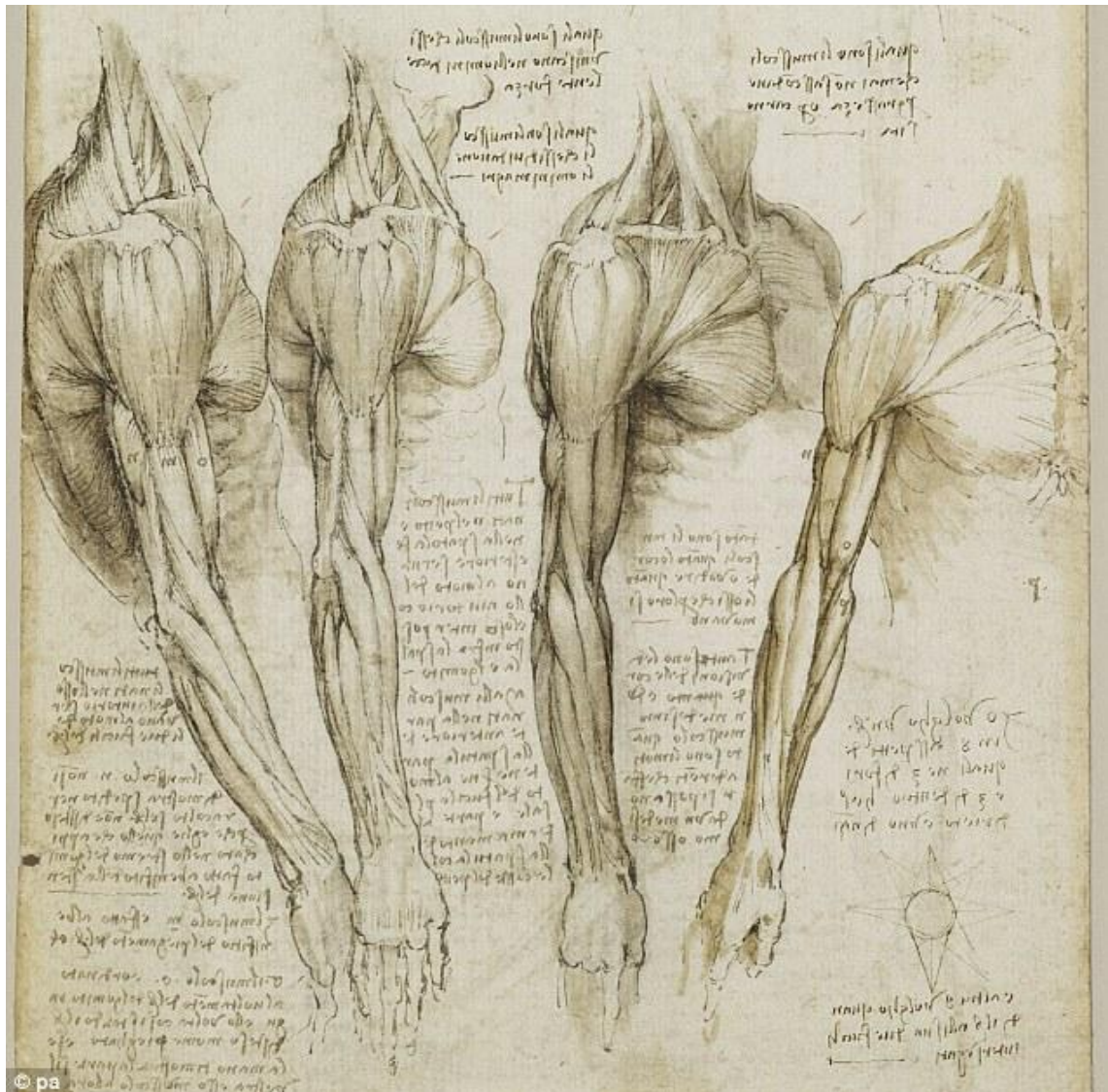
How does one use reference then? There are various different ways to do it, and the focus of this section is to discuss the different results that can be found via researching the subject. In this thesis the approaches have been divided to following categories: life drawing, photographs, existing work by others, 3D and memory, and some of those further to having their own subcategories.

These are not absolute divisions nor rules, the different methods can and should be experimented and mixed with each other, to find the way that works the best for the specific task and an artist. There is some overlapping with these as many methods do exist, and an artist and the author of *Dinotopia*, James Gurney (2011) writes about his experiences on the topic in his blog *Gurney Journey*. "Everyone has to develop a reference strategy that suits their goals. I'm a pragmatist on this issue: the desired results govern the choices, and I've used every kind of reference." (Gurney 2011). Gurney's work is referenced a lot in this thesis, as he provides a great deal of good resources in the forms of books and blog posts that are related to using reference in art.

3.1 Life drawing

Life drawing is a proven way of using reference, before photography came along it was a very usual thing to do when planning or working on a painting. Observing real life, making preparatory studies of the subject at hand first and after that moving to the actual painting, or even having a life drawing setup at the same time when working on the image.

A good example in history is Leonardo da Vinci. According to an article written by Suzannah Hills (2013) Leonardo da Vinci ensured his artworks were accurate by researching the human body. He dissected more than 30 human corpses between 1507 and 1513 and made detailed studies of muscles, bones, vessels and organs (picture 2) (Hills 2013).



PICTURE 2. Sketches (Leonardo da Vinci, The Royal Collection)

In a book about a Finnish artist, master painter Albert Edelfelt, Elina Anttila (2004) writes about Edelfelt's painting process. According to Anttila, many preliminary sketches have survived to this day, and by observing them it is easier to understand the process behind the finished works. The original compositions for the paintings are derived from sketches and notes that were painted and drawn outside, and sometimes combined with written notes. This can be understood clearly when having the finished painting and a sketch on top of each other, as in the image of Edelfelt's painting *Leikkiviä Poikia Rannalla* (picture 3) (Anttila 2004, 18-20).



PICTURE 3. On the top, *Leikkiviä Poikia Rannalla* (Albert Edelfelt 1884, Ateneum art museum), and below Edelfelt's sketch for the same painting. (Anttila 2004, 19)

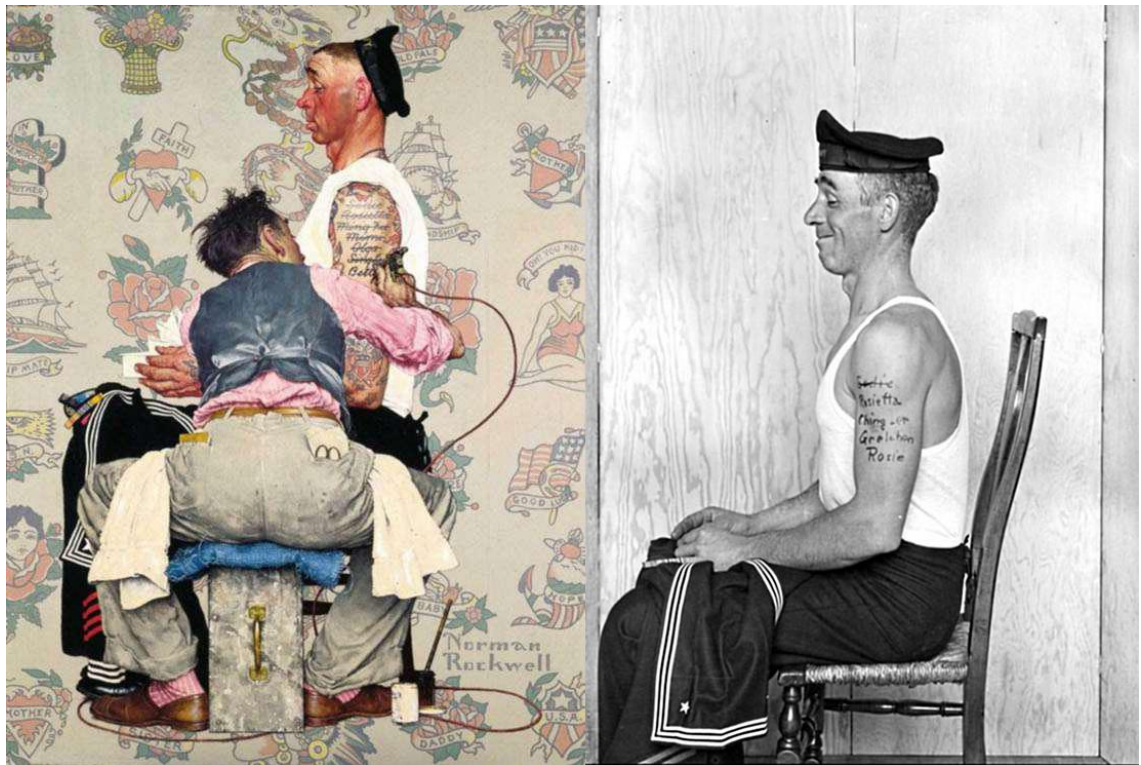
Teacher and designer Scott Robertson (2013) also notes the importance of life drawing, in addition to taking photos, building models and visiting museums. He writes that one should focus on seeing the object in graphical shapes, rather than trying to draw or being concerned about the three-dimensional attributes of the object. According to Robertson one should observe proportions, graphics and the functional anatomy of the object when drawing from observation. (Robertson 2013)

3.1.1 Modelling

People are a common subject in paintings, so it is important to have a good understanding and good reference for human anatomy, poses and expressions when working on characters. There are a couple of different ways to use people from reference, when drawing from life.

Gurney (2009) mentions in his book *Imaginative Realism* a method that has been used by artists for centuries, which is using yourself as reference and drawing by looking at a mirror. When he was working on an illustration of a Kushite king in Egypt for National Geographic, he set up drawing paper on an easel, acted out the pose and sketched a little at a time, using himself as the reference. According to him it doesn't matter if the artist isn't exactly the right type for the character that he or she is acting as, it's just for getting the basic action of the pose down. There are some limitations to doing mirror studies though, the artist is locked into a eye level, and it takes two mirrors to do side and back views. (Gurney 2009, 58)

One option when it comes to drawing people from life is to hire models to pose for an artist. There are professional models that can be hired, or it could be someone familiar to the artist if the person fits the character of the painting well. According to Gurney (2009), professional models of all kinds can be found through modelling agencies. Agency is the best source, if you need a model of a particular age, race or type you can't find easily (Gurney 2009, 66). Justina Bakutyte (2014) writes in an article for Beautiful Decay website that the 20th-century American painter Norman Rockwell was hiring models at first, but later used his neighbours and friends for reference photos. As an example, the sailor in one of his paintings was his neighbour (picture 4) (Bakutyte 2014). The difference in this practice is to take photos of the model instead of drawing him or her from life, but using models can be applied to both methods.



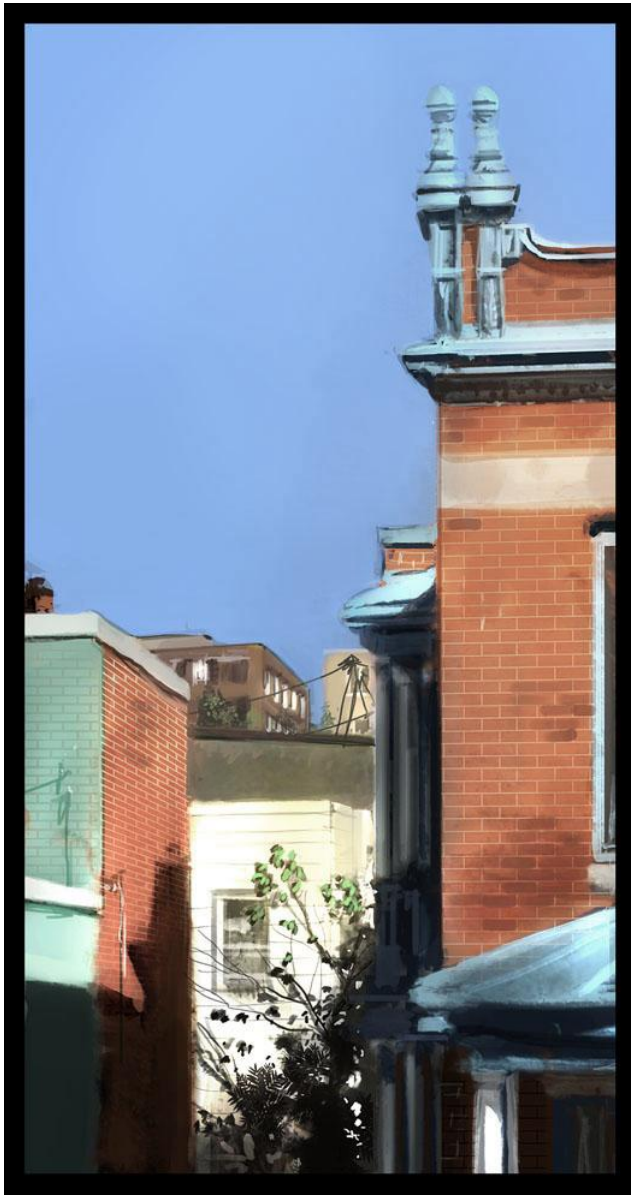
PICTURE 4. On the left, *The Tattooist* (Norman Rockwell 1944), and on the right the staged photo with his neighbour Clarence Decker (*Beautiful Decay*, Norman Rockwell's Reference Photos For His Iconic Paintings Revealed 2014)

3.1.2 Locations and objects

In addition to people, there are a lot of things an artist can draw from life. Locations and scenery is a subject which can consist of a landscape, different objects, whatever is there in that particular location.

Giovanni Civardi (2009) writes about life drawing in his book *Drawing, A Complete Guide*. He encourages to always carry a sketchbook and a pencil with you when walking on the countryside, because that will allow you to do quick sketches and visual notes, and they will prove to be useful when planning a more complex scene or painting (Civardi 2009, 282).

Traditional art tools are not the only option for life drawing nowadays. In a blog post, Charley Parker (2006) writes about an artist Nicolas Bouvier, also known by the name Sparth. Parker displays one of Bouvier's digital paintings (picture 5), which is done from life by using a laptop and a Wacom tablet (Parker 2006). Tablet computers are also a good option, as there are many drawing and painting programs available for them.

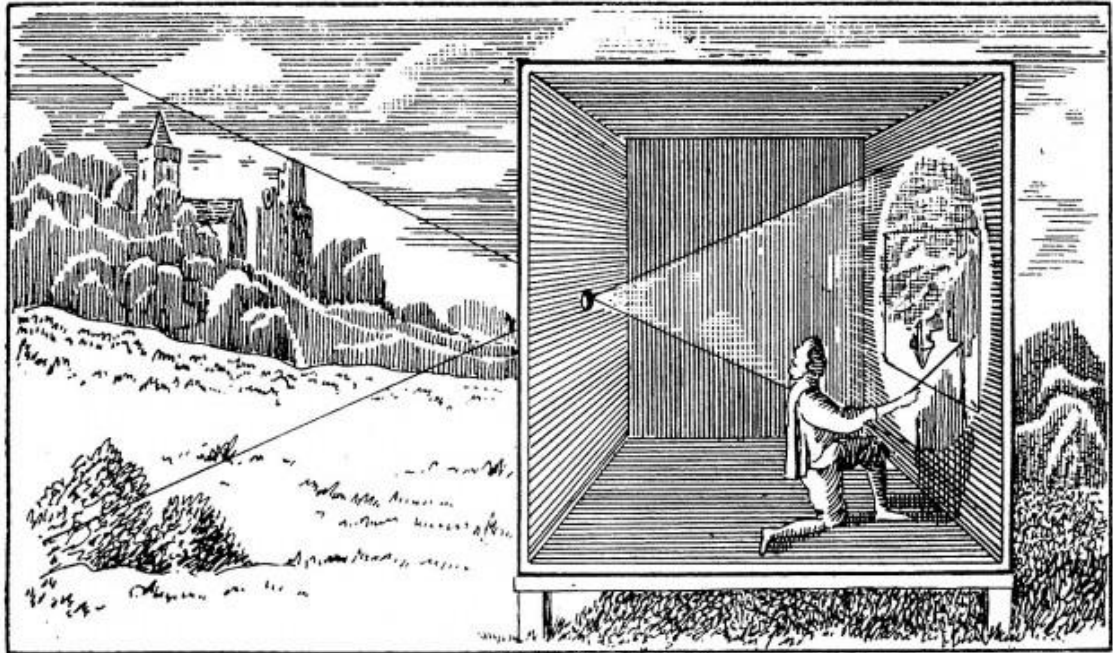


PICTURE 5. A painting from life (Nicolas Bouvier)

3.2 Photographs

Photos are a common source of reference nowadays, but already earlier in history there was technology called camera obscura an invention which eventually led to photographic camera. Camera Obscura (2016) website tells that the origins go as far as to 400 BC, as Mo-ti, the founder of Mohism mentioned the concept of a pinhole camera. Through history there are notions of different people such as Aristotle, Shen Kuo and Leonardo da Vinci using and experimenting with camera obscura or its working principles (2016). Philip Steadman (2011) describes camera obscura in his text. Up until the 16th century camera obscura was typically a dark, closed room with a small hole in the blinds of a window or a door, that would allow light to enter the room and

cast an image of the view on the other side to the opposing wall of the hole (picture 6). During the mid -16th century the holes were replaced by using glass lenses. He mentions that it is suggested that the Dutch painter Johannes Vermeer used camera obscura already in the 17th century for his paintings, although it is still a controversy to this day. It is established that later, in the 18th century some other famous painters such as Canaletto used it in their work. In the 18th and 19th centuries this technology was used widely for copying prints and pictures (Steadman 2011).



PICTURE 6. A room-sized camera obscura (Pixsylated, Stepping Inside Havana's Camera Obscura 2014)

Using photos as reference material is a widely used method, photos having certain attributes that make them great for the use. When life drawing can sometimes be difficult to arrange, photos on the other hand do not require much space, equipment or money to be used and they stay still even when working for longer periods.

When working with photos, artists often make what are called reference sheets, which are collections of somehow interesting or useful images related to the subject of a painting. For example, one image can be helpful with the pose of a character, other one can provide interesting costume ideas, when yet another might have a nice lighting. Concept artist Matt Kohr (2011) talks about a collection of reference photos he has gathered for a female archer character in his video Digital Painting - Using Reference Materials. Even though the reference is for a female archer, Kohr has gathered images

of a woman in an archer costume, but also two images of women in black costumes and other photos. Kohr says the women in black costumes do not have a lot to do from a costume point of view for that particular painting, but they have interesting poses (Kohr 2011).

When you gather reference together, you have to think about individual components. So I can see these two ladies in black and say those are good poses, and I can completely look past what they're wearing. And likewise, I can even use pictures of men, or totally unrelated things, if I see a bit of costume that I like. Because what you are doing with reference, is piecing together different aspects all towards your original idea. (Kohr 2011)



PICTURE 7. Raccoon Man. (James Gurney 1985)

James Gurney has a great example of combining elements from two different references in his pencil work Raccoon Man (1985) (picture 7). According to Gurney (2009), when he was working on the sketches and developing a creature that has features from both a raccoon and a human, he surrounded himself with photos of both, borrowing certain features from one and some from the other. (Gurney 2009, 104)

Gurney (2011) mentions some of the pros and cons of using photos as reference. Working from photo reference can be useful especially when dealing with kids, animals, anything in movement. He says that when he needed to paint a kid playing tug-of-war with a dinosaur, the first drawing he did from his head didn't have the same conviction

as after getting photo reference of the action (2011). According to Gurney (2009, 64), every photo is still just a starting place, and they should not be taken literally.

Some of the cons of photography can be photographic effects such as depth of field and motion blur that belong to some images, but not in others. An image can also lose its magic if a photo is copied too much (Gurney 2011). For example, if a painting starts to look almost the same as a photograph, is there room for artistic expression and choices anymore? That is of course something that every artist needs to decide for themselves, what is the type of work he or she wants to create and the message that the work will convey.

3.2.1 Taking your own photos

In this day and age almost everyone has a camera of some sort, be it an actual camera or the one you might have in your phone or laptop. Thus one option is to take your own photos and use them for reference. Art director Lauren Panepinto (2014) writes in her blog post "Artist Selfies: Everybody's doing it" at Muddy Colors blog about the difference between photos from the internet and photos that have been taken by artists themselves (picture 8). She says that the internet is a great resource, but often she can tell if someone has used separate images for different parts of a painting, such as the face of a character, hands or clothing. The angles might not match and there might be issues with the lighting (Panepinto 2014). Taking your own photos requires some effort, but you can get much more coherent results with them, rather than relying on a bunch of photos with possibly different light conditions, colors, poses and so on.

Panepinto writes about how shooting one's own reference very often brings a huge leap forward in the work of young artists, but it is also a topic that she hears the most excuses about. (Panepinto 2014)

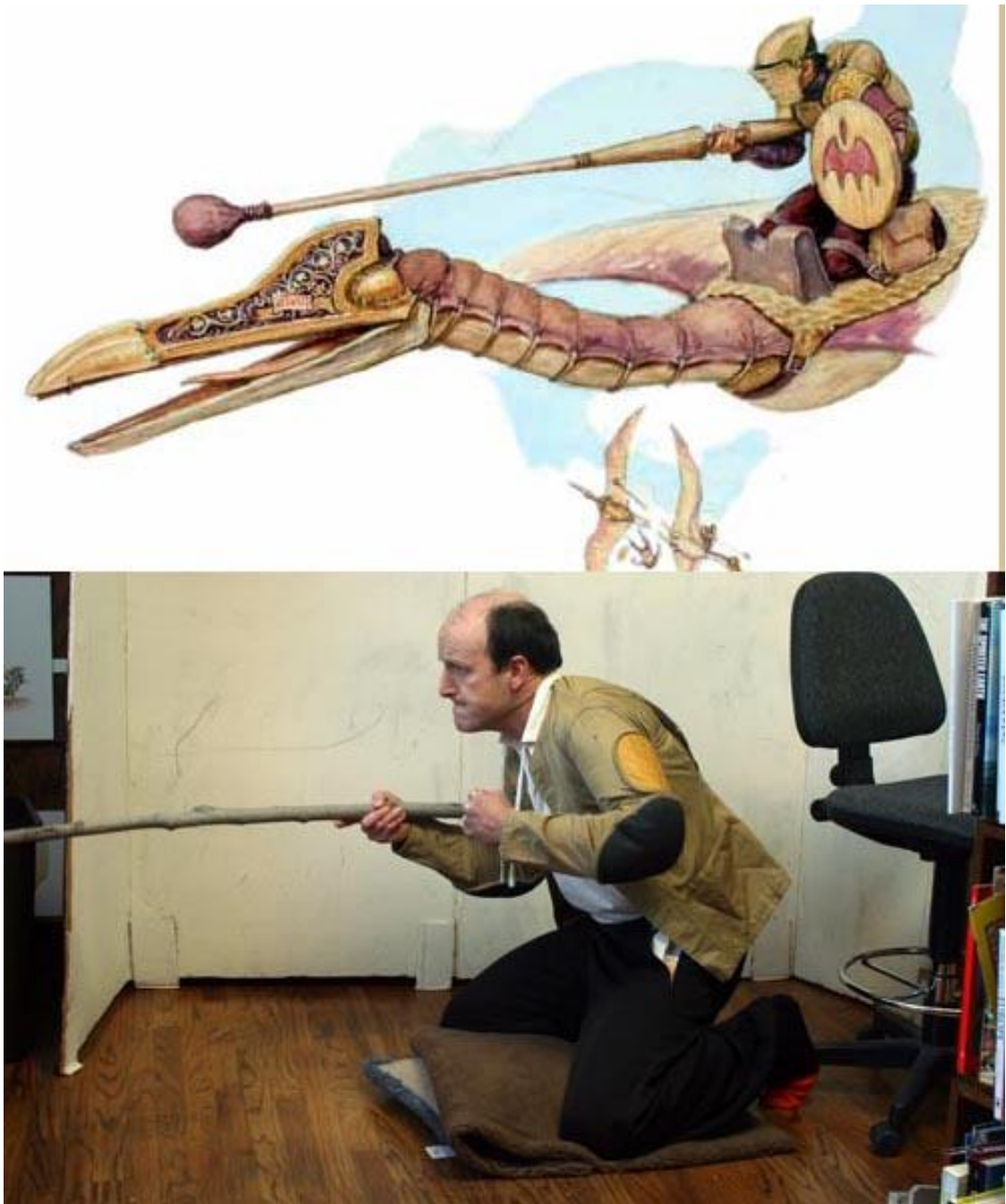
I hear "My friends don't like to pose." "I'm not a good photographer." "I don't have money to hire a model." "I don't have good props." "I don't have a good camera." and I say the best artists in the world use themselves for reference all the time. With rulers standing in for swords, with any kind of camera or webcam, and without even cleaning their studios, if these guys are shooting themselves, you can too. (Panepinto 2014)

Panepinto also emphasises that the artist himself or herself is the one who knows best what he or she wants, is always available and works for cheap (Panepinto 2014).



PICTURE 8. Gregory Manchess posing for reference for a book cover illustration (Muddy Colors blog, Artist Selfies: Everybody's doing it 2014)

In addition to getting great reference photos by taking them yourself, in his blog Gurney (2011) talks about other benefits of acting as a character. He states that when working on a fantasy painting, it is fun to act out a scene (picture 9). The photo reference does not necessarily turn out that good or useful, but the point is to get into the spirit of the action. That is more important than getting a photographically real piece of reference for copying. According to Gurney if an artist can identify with the subject of the painting, feel the weight and balance, and especially the emotion, he or she has got 90 percent of the problem solved (Gurney 2011).



PICTURE 9. James Gurney riding a pterosaur (Gurney Journey blog, Riding a Pterosaur 2011)

According to Gurney (2009) the more an artist projects him or herself into a character, the more convincing a painting will be. Knowing which muscles are tensed and which leg is bearing the weight, all that transmits to the final result (Gurney 2009, 62). Marcos Mateu-Mestre (2010, 14) shares a similar thought in his book *Framed Ink*. If we are going to tell a story, we need to believe in it and its characters. If we are going to move an audience, we need to be moved ourselves first. We just won't be able to give something that we don't have (Mateu-Mestre 2010, 14).

3.2.2 Other sources

There are a lot of other sources for photos: the internet, books, and magazines for example, internet probably being the most used of them all because of the easy accessibility and huge quantity of photos about different subjects.

Even though as Panepinto mentioned, especially when using photos from many different sources they might not match that well, which can also be seen in the final artwork and while taking your own photos is a very good option to do, there are some subject matters that can be very difficult or impossible to take photos of. Matt Kohr (2011) talks about using reference in his tutorial video. An important role in making a painting is to know how to find the right pictures on the internet, because some photos artists can take by themselves but certain things are impossible to have around. (Kohr 2011). Clara Lieu (2013) writes that artists should use someone else's photos as reference only when there is absolutely no other way of getting the information that the artist needs. As an example she mentions illustrating an elephant and the need of reference for the details on its skin (Lieu 2013).

3.2.3 Photo bashing

3D Concept Art (2015) website mentions a technique called photo bashing. According to the website it is a fast way of making detailed concepts by using photo references and it is widely used in production. On a tight schedule, it helps with getting out ideas, making fast iterations and saves time, although copyright problems exist with this technique (3D Concept Art 2015).

In 3Dtotal website, Arthur Gurin (2015) demonstrates his workflow using photo bashing to create an illustration. He writes that he likes to start with a sketch (picture 10), focusing on the main shapes and composition at that point and not worrying about details. After that he gathers reference images related to the subject (picture 11), but he mentions that inspiration can be found anywhere so the main theme doesn't have to restrict the research. He mentions that there is still a need to paint a lot of things, even though the photos help to speed up the process. To make the final illustration believable the photos need to match each other and to achieve this, he uses his initial color sketch

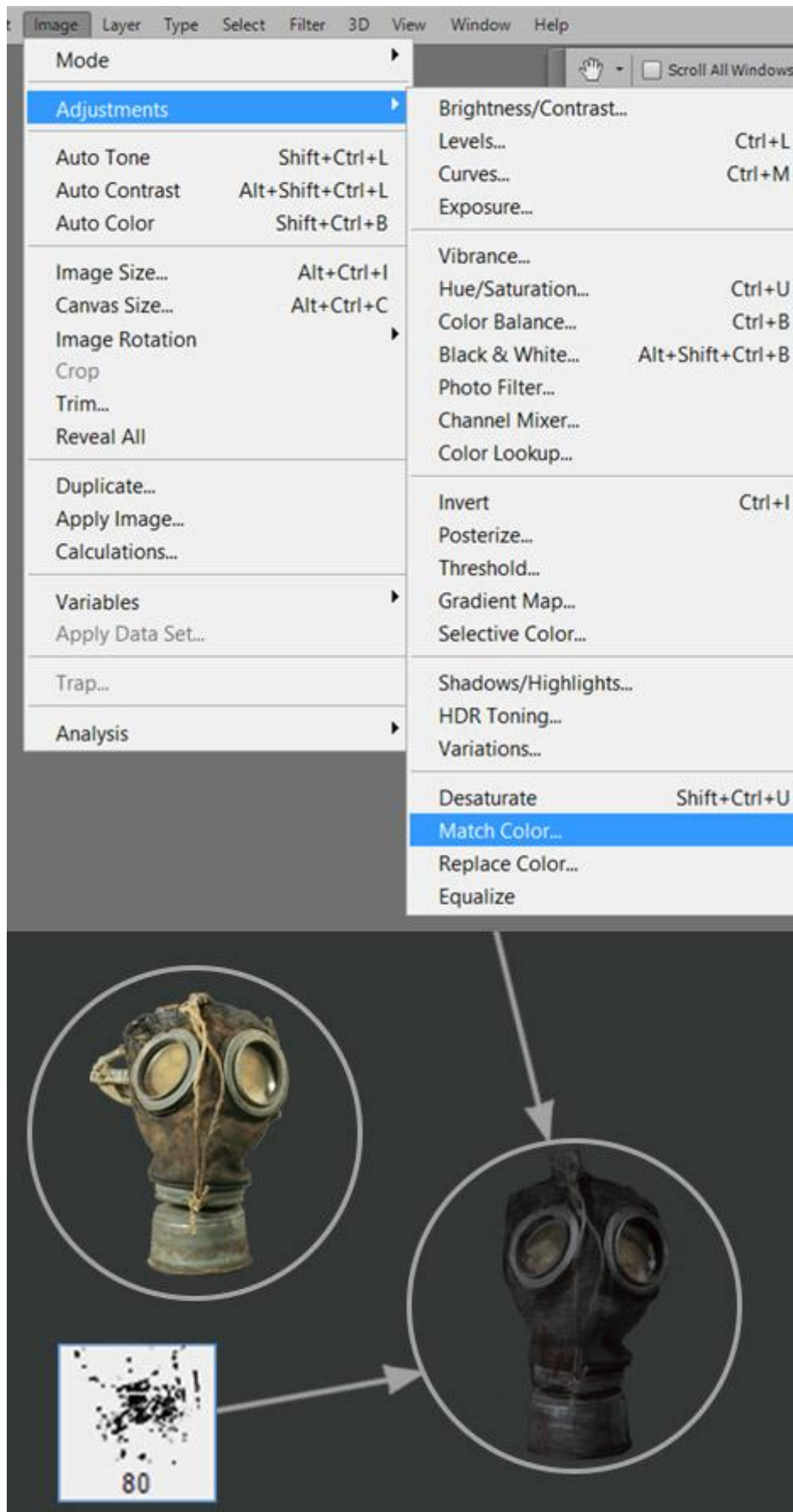
and Match Color function in Photoshop and after that painting over with a texture brush (picture 12). Using the same process he ties the reference images with the illustration and adds them to the background and the character (picture 13). For final touches he adds layers, such as a noise layer for giving the illustration a cinematic look and using the filters Gaussian Blur and Smart Sharpen to hide or highlight some parts of the image and after that the image is done (picture 14)(Gurin 2015).



PICTURE 10. A quick sketch to get an idea (Arthur Gurin, 3Dtotal, Making the 'Mountain' 2015)



PICTURE 11. Arthur Gurin's reference images all in one place (Arthur Gurin, 3Dtotal, Making the 'Mountain' 2015)



PICTURE 12. Match Color and over-painting (Arthur Gurin, 3Dtotal, Making the Mountain' 2015)



PICTURE 13. Building up the details (Arthur Gurin, 3Dtotal, Making the 'Mountain' 2015)



PICTURE 14. Mountain (Arthur Gurin 2015)

3.3 3D

Three-dimensional objects can be used for reference when creating a painting. A more traditional approach to this would be building your own models from materials like plastic, clay, cardboard or something else, but there is also the opportunity of using digital 3D, creating, lighting and rendering objects in a 3D software on a computer.

3.3.1 Traditional 3D

What is meant by traditional 3D, is using sculptures, maquettes, toys, generally put using real life objects, built by oneself or not, for understanding the subject, lighting, perspective or proportions better when creating a painting.

Gurney (2009) writes about using maquettes for painting in his book *Imaginative Realism*. According to him, maquettes can help when creating sequential work such as a graphic novel, animated film or illustrated book, because in those the artist needs to portray the same characters over and over again, and from several angles and with different lighting. Multiple maquettes can also be used, and when setting them under the same light the artist can then pick out the effects and choose the details he or she wants to have in the painting. One can also set up a tableau, an arrangement of maquettes that are in scale with each other, and experiment with the lighting and arrangement to get a better reference for a whole scene (picture 15) (Gurney 2009, 68-69, 84-87).



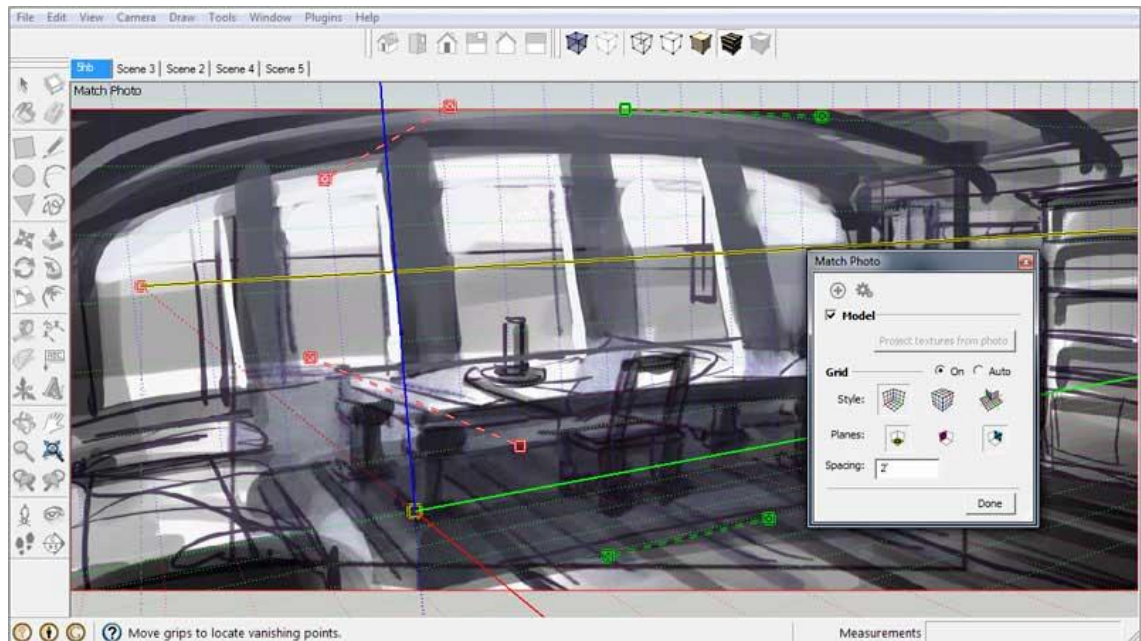
PICTURE 15. Market Square model (James Gurney 2006)

3.3.2 Digital 3D

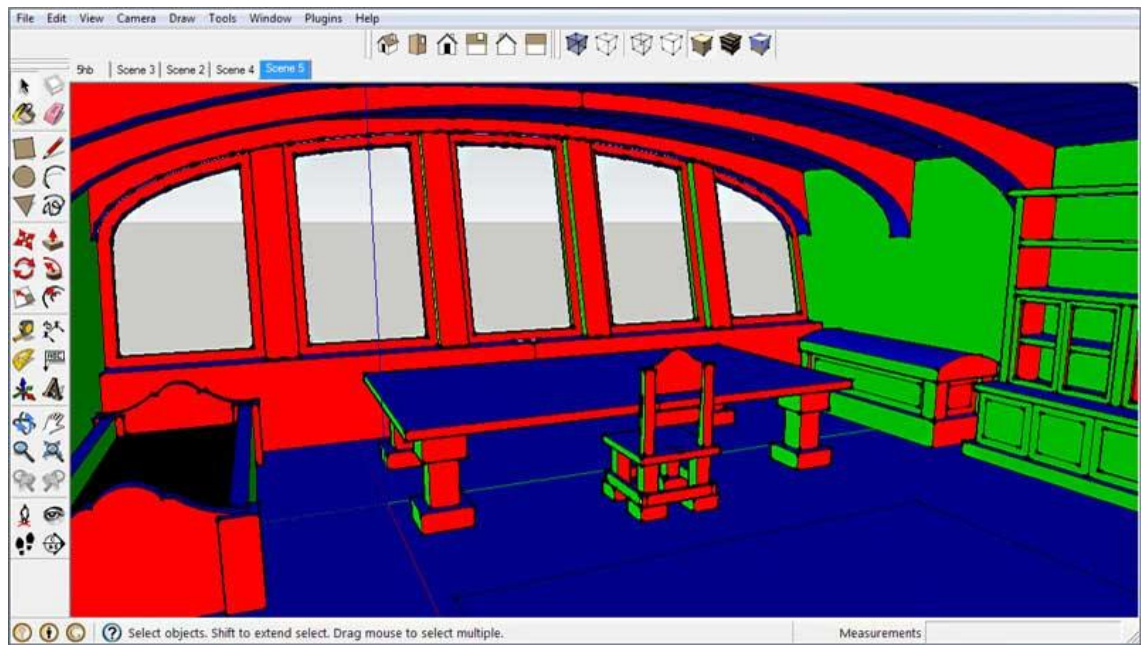
Nowadays it might be easier to set up a 3D scene in one of the 3D programs that are out there, especially if one is already proficient with one or several of those programs. That will eliminate the cost of materials needed for building a traditional 3D setup and is faster in the sense that one can just render the image as file or take a screenshot. That of course depends on the materials used which can be cheap, recycled or more expensive. The lighting in traditional setup can be faster to change too, as in digital 3D rendering the lights can take more time, depending on the computer hardware and the complexity of the 3D scene. Most of the software costs something, although there are free ones available too, but it requires time to practice to learn those programs, depending on the program and the user's previous experience with similar programs.

A good example of how one can set up a 3D base reference for a painting is covered in a tutorial by Samuli Lautjärvi (2012). In the tutorial to create an environment concept painting, he uses the following software: Photoshop, SketchUp and Kerkythea. The process starts by creating a rough and simple 3D environment based on a sketch, by first

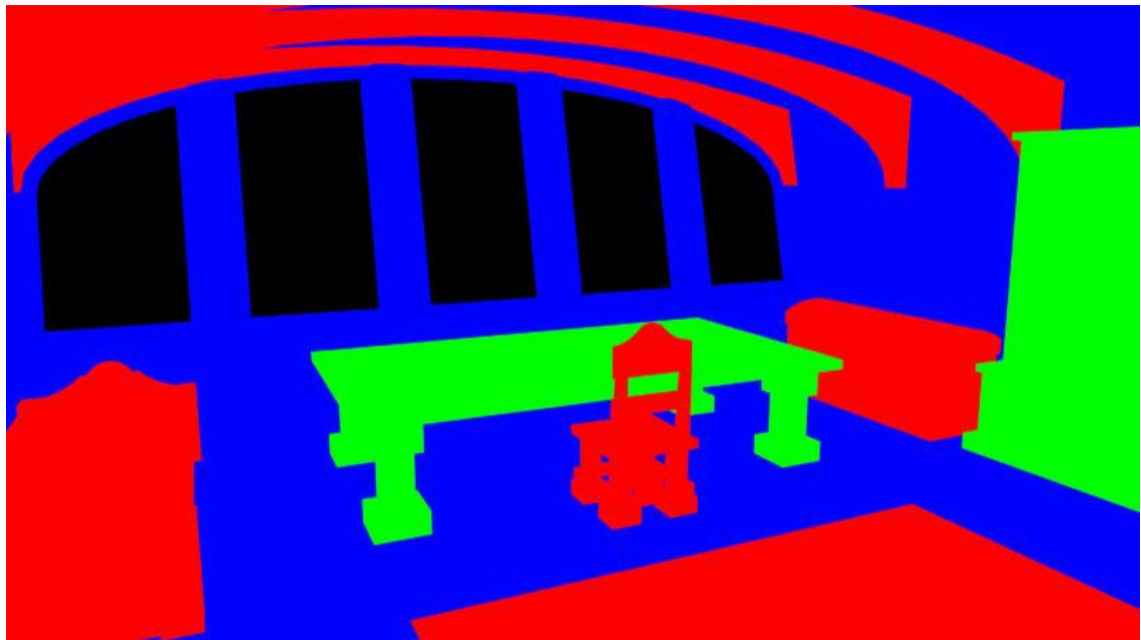
adjusting the camera and perspective to match the initial thumbnail (picture 16). After that he builds the 3D environment, and imports a render of the lineart, a light map (picture 17) and an object map to Photoshop, rendering the images with Kerkythea (picture 18). The selections, that the different maps can provide, are used to paint in the forms of the objects, add textures and paint over whatever part that needs that (picture 19) (Lautjärvi 2012).



PICTURE 16. Setting up the Background Using Match Photo, screenshot from SketchUp (Samuli Lautjärvi, Sketchup Artists, Making an Environment Concept from a 3D Base 2012)



PICTURE 17. Light Map, screenshot from SketchUp (Samuli Lautjärvi, Sketchup Artists, Making an Environment Concept from a 3D Base 2012)



PICTURE 18. Rendered Object Map File (Samuli Lautjärvi, Sketchup Artists, Making an Environment Concept from a 3D Base 2012)



PICTURE 19. The final image (Samuli Lautjärvi 2012)

The process is pretty interesting, there is a lot of more technical information about the process in the article. 3D base in this case will provide the correct perspective, movable objects and also the possibility to use different selections of objects and surfaces to help when painting.

The whole scene could be built, textured and lighted in a 3D software also, but it depends on the purpose and the look of the final image that is sought after what tools the artist should use. The image is an environment concept, it is faster to paint in those details once the base of the environment is set in 3D, when comparing to modelling everything in 3D, unwrapping, texturing and lighting them.

3.4 Writing

Even though painting is a visual form of creating, written notes and text can be useful when going through the planning process for an image.

In the article by Jordan (2015), both Haworth and Mahlke tell that they usually write notes when they are on-site, Haworth says that the notes can tell more than just taking a photo. Mahlke on the other hand says that while she does sketches and writes notes, she sometimes takes a lot of photos too. According to Mahlke she can then get inspired by looking at many different photos and use that to her advantage when sketching and

preparing the work (Jordan 2015). Again, different ways of using reference are combined.

3.5 Existing work by others

Reference doesn't necessarily have to be only subject-related. It can be related to a certain style or way of creating paintings and imagery, and it can be beneficial to have some reference for the style that is being sought after.

The game company Blizzard's careers page (2016) has some information about the requirements they have for hiring artists. The site mentions Blizzard's style, strong silhouettes and colors. They also describe Blizzard characters being stylised and exaggerated and not realistic, to not be outdated as the graphics processor power is increasing (Blizzard 2016). So, an artist has to be aware of the style and the requirements of which ever company he or she is looking to work for, and the products of the company can work as good reference for that cause.

As good as existing work by other artists can be for reference, there is an important point to remember. Gurney (2009) writes that while it is not possible to just go out and sketch a spaceship from life, there is the possibility of finding some images in the internet about a certain scene or an object, but those are other people's interpretations of the subject (Gurney 2009). Other people's work can act as a source of inspiration, but in the end an artist should be aiming to create his or her own interpretation of the subject, rather than following someone else's vision.

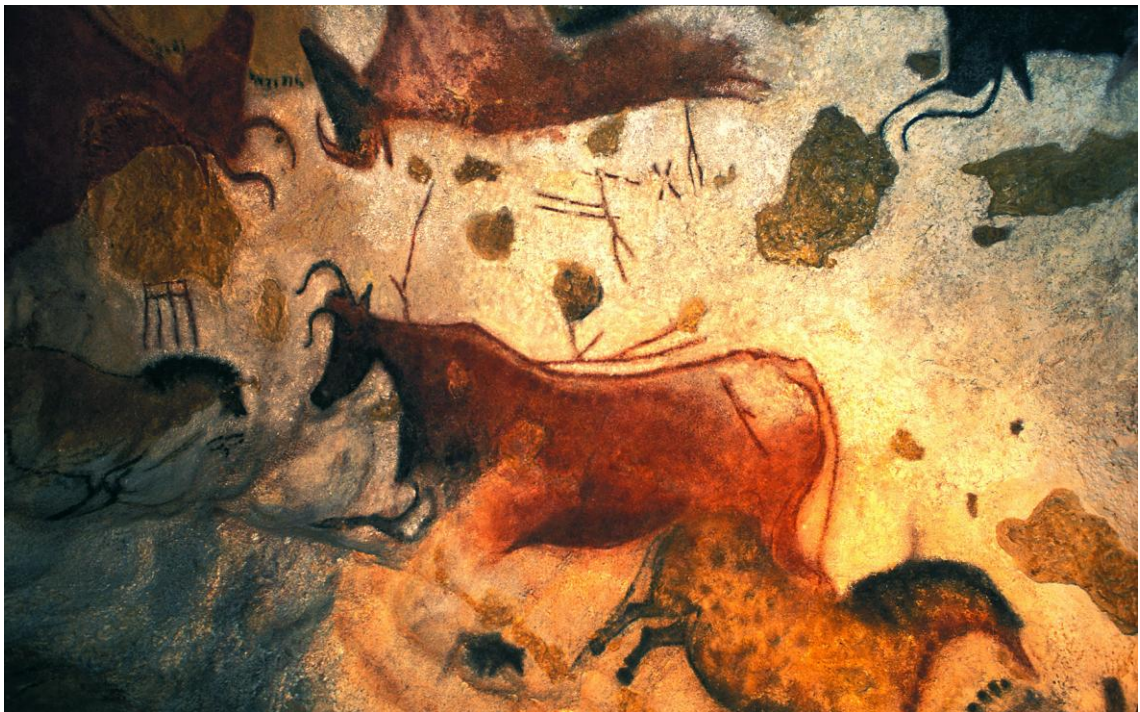
3.6 Memory

Using one's memories as reference is a possibility too, and it requires observing closely and possibly drawing and practicing the subject first, whatever it is. In an interview of an artist Kim Jung Gi, hosted by an illustrator Jesper Ejsing (2015), Kim Jung Gi tells about his process when practicing drawing. What he says separates him from most artists, is that he tries to study and observe live objects and draw from life, rather than just copy what he sees from reference. That develops his ability to remember the subjects better afterwards, and thus it is easier to draw them later. Kim Jung Gi says in

the interview that he used to do sketches and colouring before, but it took him so long, so he tried skipping that part and for him it worked (Ejsing 2015).

Gurney (2011) also mentions that there is an argument for using no reference at all. According to him you can train your memory, and being able to work from your imagination can be helpful when developing an idea (Gurney 2011). In this case the reference is stored in the artist's memory.

When looking at prehistoric art, while there is no evidence of how reference was used, it is quite clear that at least observing and memory were used to create the images. A good example is Lascaux in southwestern France. Wikipedia (2016) mentions that Lascaux caves contain nearly 2000 paintings that are estimated to be around 17 300 years old, and over 900 of the images can be identified as animals, and out of them 605 even have been precisely identified (picture 20) (Wikipedia 2016).



PICTURE 20. Lascaux cave paintings (France.com, Lascaux II Visit & The Art Of The Caves)

Using reference has a long history and it is always used in one way or another when wanting to depict a certain thing. Still, studying the subject and using other reference than one's memory can bring more resemblance to the painting, although as mentioned before, memory can be trained too by observing the subject closely.

4 IN PRACTICE

This is the practical part of the thesis, but first a little bit of myself. I have been drawing all my life, although focusing on art more seriously came to me much later. I have been working in the field of illustration and concept art from 2012, doing freelance work and working fulltime in a few game companies. The goal of the practical part for me was to learn and practice using reference, out of curiosity towards the subject but also helping me to evolve as a professional artist.

In this part I am trying out some of the methods of using reference when creating a digital painting in practice, and analysing the experience; how does it fit and change my workflow, do I find it to be a beneficial thing to do and talk about other things I found out while doing so.

The technical side and explanations of these experiments are mostly about the process of using reference, but it is important to remember that it will not cover much of the actual drawing or painting or how to execute that, as that is not the target of this thesis. These are done in a somewhat subjective manner and from my own point of view and preferences, and everyone should find the way and process that suits themselves and their goals the best.

4.1 Painting 1: Mage casting a spell

I chose to illustrate a mage or a wizard type of character casting a spell. I decided to take a photo of myself with my webcam, and I started by creating an interesting light setup and dressing up in a costume that could work at least as a good base for the character in the final painting. The idea behind this was to get inspired by the scene and see where that would lead.

4.1.1 Written notes

At first I wrote a short list of the things I wanted to have in the image, just to have a better idea of what I resources I would need to be able to get good reference. For the

character, he would need to have a robe and a hood of some sort and possibly some other elements, like belts or pouches, a staff or a book.

With the light, I wanted to have one main light source, which would be located in front of the character, as if the light would be coming from the spell that the mage is casting. Otherwise the environment needed to be quite dark, so I could see how the light would behave and what kind of shadows it would create without having the distraction of other light sources.

4.1.2 Costume

For the costume, I used clothes and accessories I already owned. The costume was nothing fancy; it consisted of a bathrobe, a hooded shirt, a wooden practice sword, few scarves and a belt. I didn't worry too much about the accuracy of the costume, as in the painting phase I would cover up and change some areas if I felt the need to do so.

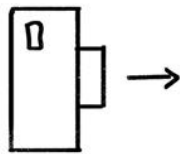
4.1.3 Light setup

The light setup was very simple. I attached a table lamp to my desk, adjusted it so that the light would be coming from the front right, and then turned off all the other lights (picture 21). I also took the picture in the evening, to prevent ambient sunlight from outside entering the scene.

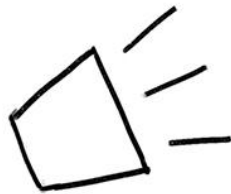
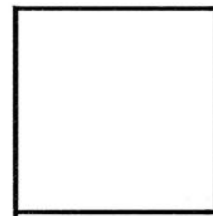


TOP VIEW OF THE SETUP

CAMERA



FIGURE



LAMP

PICTURE 21. Photo of the light setup, top view of the setup

4.1.4 Taking the photo

For the photo I dressed up in the costume, used the light setup described before and took the photo with my laptop's camera. I took several photos with the timer set to take a photo every 5 seconds to be able to change the pose and to have more a variety which to pick from, and also so I could combine good elements from different photos.

One thing I had to think about was the pose, so I tried out a few different ones just to see what would look nice with the lighting. I also needed to decide the attitude and the personality of the character to help with the pose and the facial expression. I felt that this character should look powerful and confident, a bit angry too as I imagined him creating some sort of an attacking spell. Another idea was that he is lighting the area with a spell.

The photo I chose to be the main reference for the character (picture 22) is the one that in my opinion had the best pose, facial expression and light when compared to the other ones I took (picture 23). I took 23 photos in total, to try out different poses and get a good selection from which to pick from.



PICTURE 22. Main reference photo for the character



PICTURE 23. Some of the photos I did not end up using

4.1.5 Refine the idea

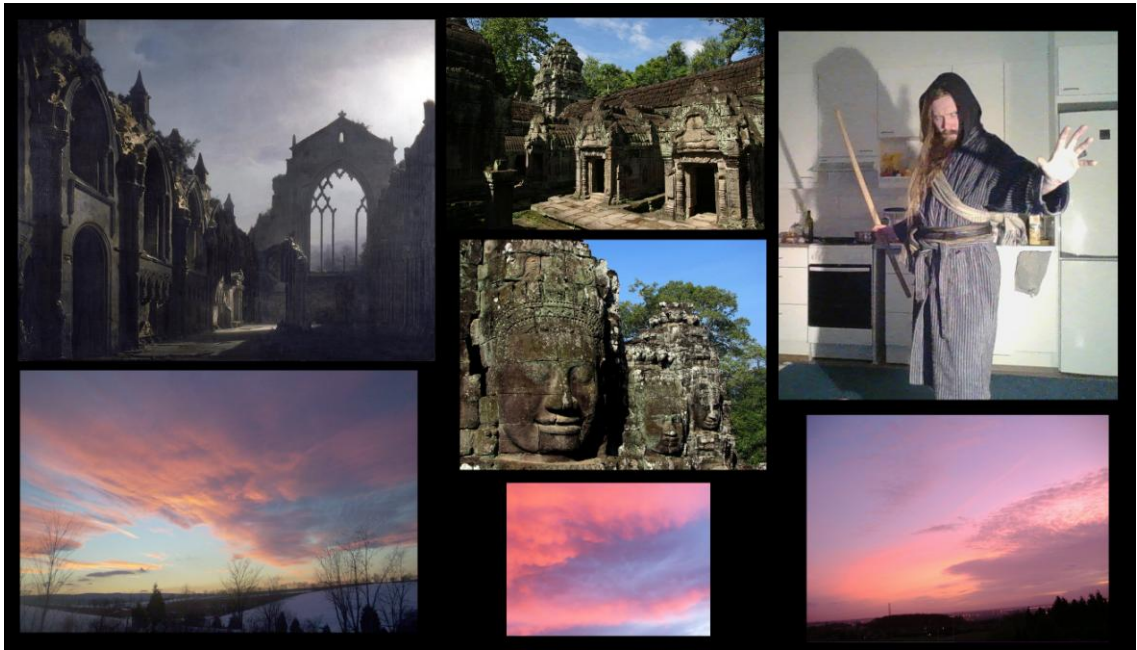
Now that I had some idea where to go with the character, I still had a lot to figure out. What would be the environment the character is in, are there other people or creatures there, what is the story behind the image and so on.

After giving it some thought, I came up with the scene. The environment would be something along the lines of an ancient fortress or ruins where the character went to explore and possibly look for an artifact. There could be some threatening guardians, spirits or creatures in the environment, thus creating more drama and tension in the image and also that would work quite well with the main character's action. In the end I went with him lighting the possibly dangerous area with the spell, instead of attacking.

4.1.6 More reference

The next step was looking at and finding images that could provide some inspiration and reference for the things that were not yet so clear. Especially the environment was something that I would need to figure out or at least have some inspiration where to go with it. I used google search with the word "ruins", and saved a few images that had something I liked and repeated that with the words "winter sky" and "pink sky". The idea for the sky came to me while thinking about what could look nice, a nice winter sky could peak a bit from behind the ruins.

From the references I found to be useful, I created a reference sheet for myself to help out when painting (picture 24).



PICTURE 24. Reference sheet of images: The Ruins of Holyrood Chapel (Louis Daguerre 1824), Preah Khan temple ruins (Wikipedia, Angkor 2016), untitled photo (Sushi and Maple Syrup, a Canadian's Perspective on Life in Japan, Siem Reap, Cambodia – Ruins of the Khmer Empire 2007), Winter Sky (Kenssimpleview 2012), Pink Clouds In The Sky (HD Wallpapers 2013),

To get some inspiration for the character, I looked at a book called *A Glossary Of The Construction, Decoration and Use Of Arms and Armor in All Countries and in All Times* by George Cameron Stone (picture 25). It has a lot of interesting images of armors, weapons and accessories and I was quite sure I could find something there. I had the book open too next to me when working on the painting, using some similar patterns and shapes that I found in the book.



PICTURE 25. Spread from *A Glossary Of The Construction, Decoration and Use Of Arms and Armor in All Countries and in All Times* (George Cameron Stone 1999, 58-59)

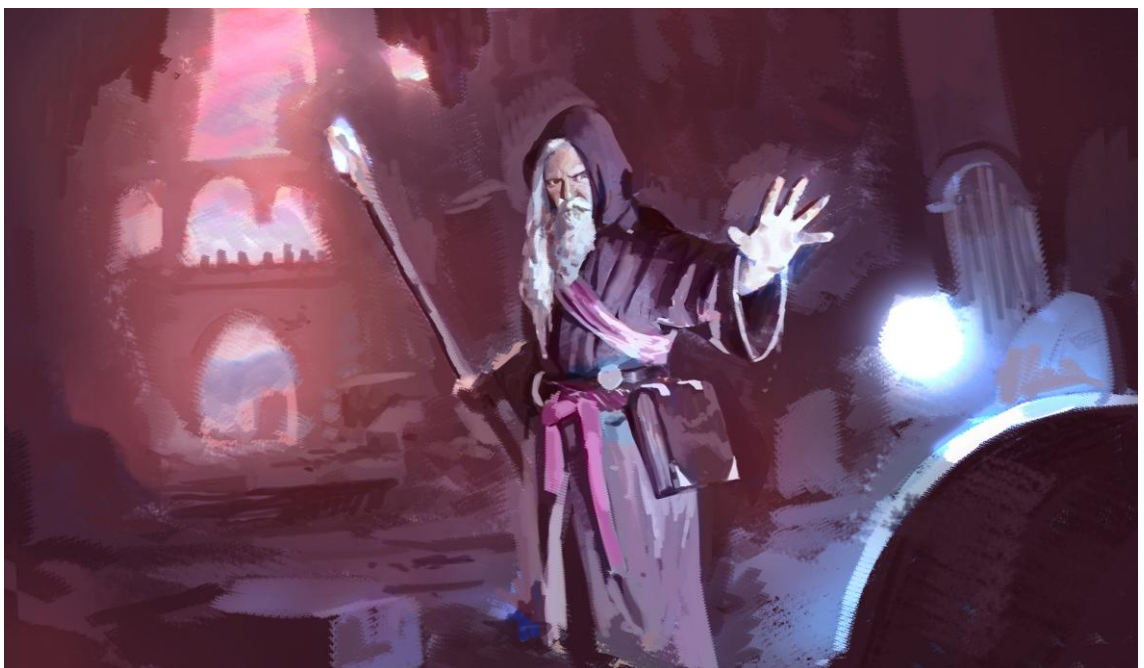
4.1.7 Painting

I started the painting in grayscale, focusing only on values, in other words light and dark. I wanted to grasp the lighting information from the photo first and focus on that, rather than mixing it up with colors straight away (picture 26). This is how I usually work, building the image with steps.



PICTURE 26. Grayscale sketch

After I felt the composition, the values and the shapes were alright I started to mix in some color using layers with color information on top of the black and white image. I played around for a while and tried to find the suitable colors. This phase was very rough in a way and a bit chaotic, but looking at the reference photos I had at least some idea where to go with the colors (picture 27).



PICTURE 27. Added colors and some overpainting

When I had the colors down, I started to paint over the image, now with colors. I ended up adjusting the colors a bit still in this phase. Not much more to say about this, I just painted until I reached a level of detail I thought was sufficient for this (picture 28).



PICTURE 28. The final painting

In the image (picture 29) you can see what reference I used and in which parts of the painting. The one I followed most was the photo I took of myself for the light, pose and clothing, and the other references as inspiration for shapes, patterns and color.



PICTURE 29. Reference used for the painting

4.2 Painting 2: Weird creature

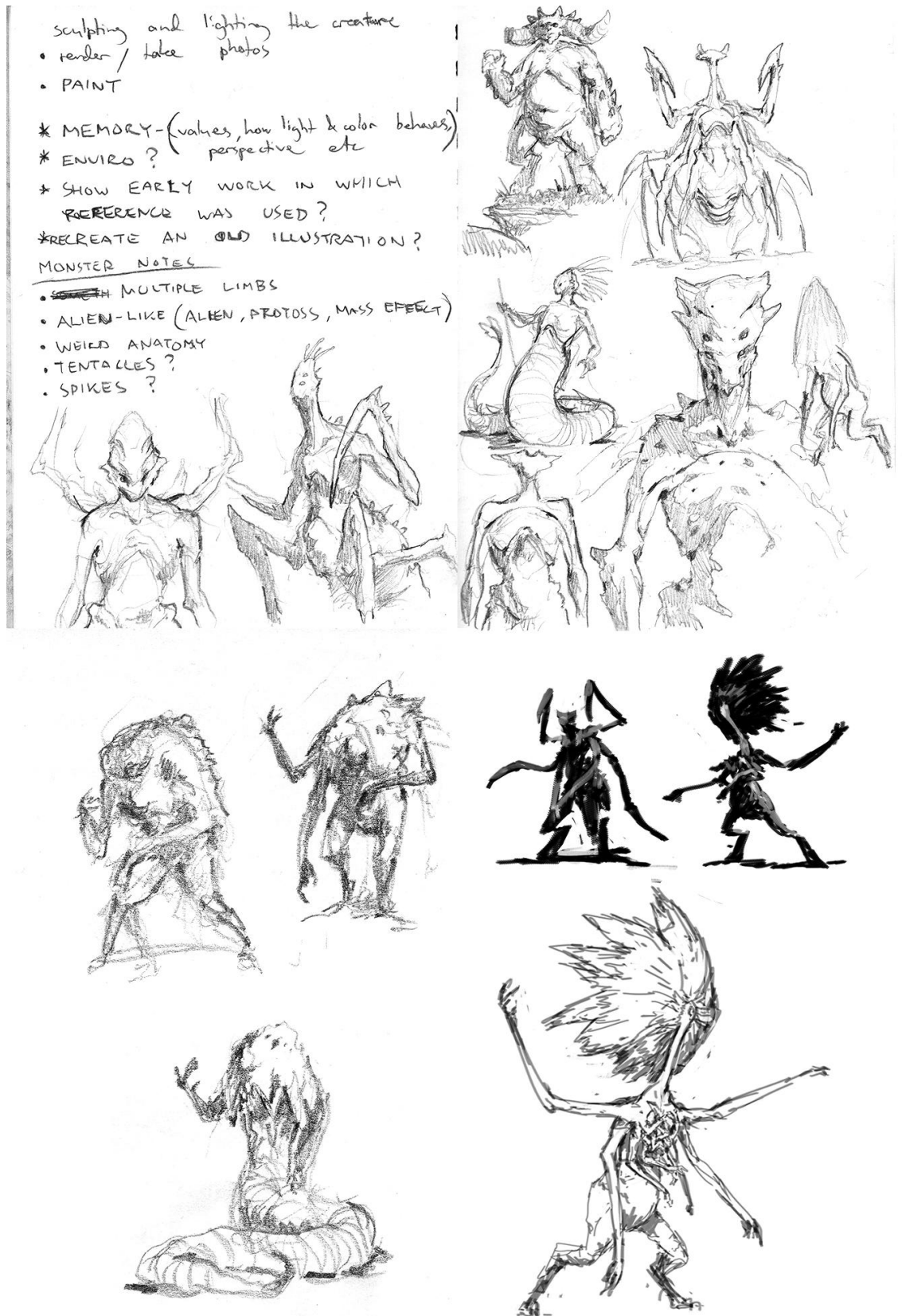
I have never sculpted anything for using the sculpture as reference, and I wanted to try that. I also picked a subject that I would not be able to photograph, so I needed to create it myself. The subject that came to my mind was a monster, a demon or an alien of some sort, partly because those are some subjects I enjoy painting, and also because it would be something imaginative and out of this world.

4.2.1 Written notes

Just to get the process going, I started by writing some notes on the subject. One thought that instantly came to my mind was that the creature should have multiple limbs. Other ideas were that it could be something alien-like, have a weird anatomy, tentacles or spikes.

4.2.2 Sketches

After that I started sketching without that clear of an idea, just to get out several things and then pick the things I liked. I tried many approaches, but the multi limbed creature stayed in my mind, so I decided to go with that. After sketching with pencil in my sketchbook, I made a few sketches digitally too. Finally I had some written notes and a bunch of sketches (picture 30), and I could move on to sculpting the base for the creature with clay.



PICTURE 30. Written notes and sketches of the creature

4.2.3 Sculpting

This was a very interesting part for me, because I have not sculpted anything in a long time. I already had some tools; tools for sculpting and carving, and also a package of modelling material. The only thing I was a bit worried about was the long thin limbs and neck of the creature, so I went and bought some iron wire to strengthen those areas (picture 31).



PICTURE 31. Sculpting tools

I did not worry too much about the details, if I could get the main lighting photographed nicely I would be able to paint over the creature in a convincing way. Also I noticed when sculpting, that it was very difficult to do those smaller details, so for me at this point it would be easier to create the main forms with the mass and continue by painting over.

4.2.4 Light setup

I set the creature in a glass jar, supported by one of the modelling tools and some cloth inside the jar. I lighted it from the top, because I felt it would create an interesting lighting together with the light coming from the windows (picture 32).



SIDE VIEW OF THE SETUP

LAMP



SCULPTURE



CAMERA



PICTURE 32. Photo of the light setup, side view of the setup

4.2.5 Taking the photo

I took the photo with my phone, and from an angle I felt could look intimidating and threatening, which was below the creatures upper body (picture 33).

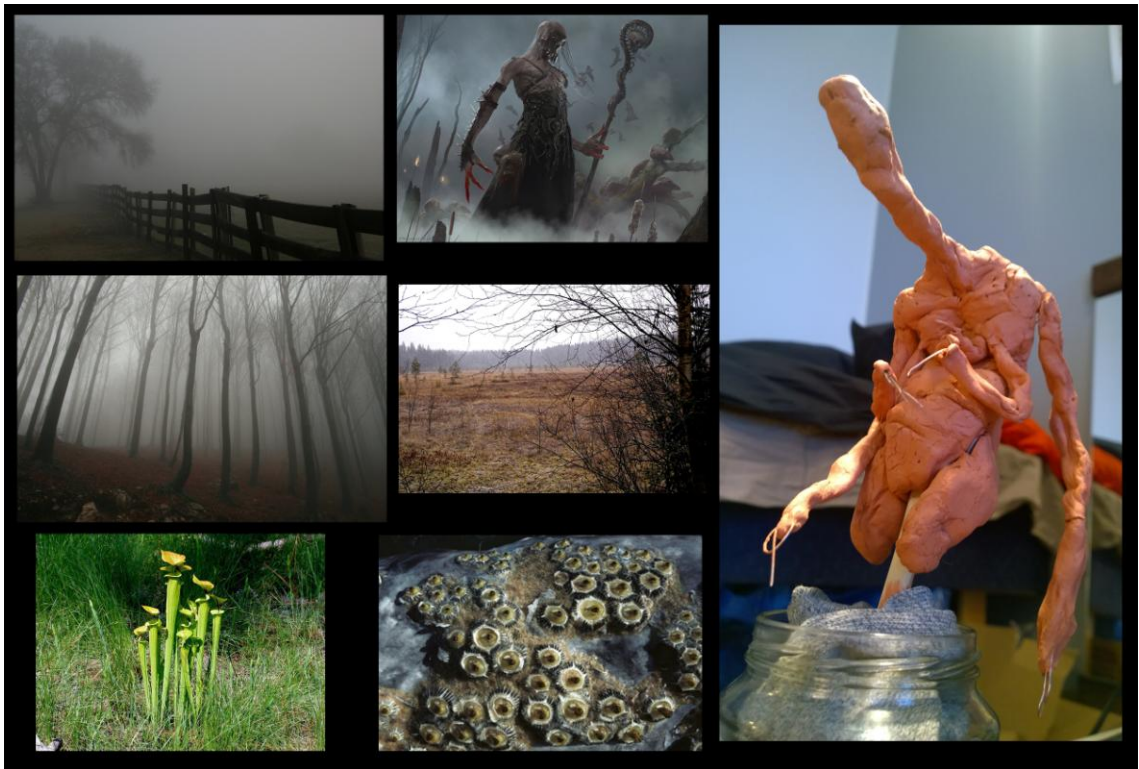


PICTURE 33. Reference photo of the creature

4.2.6 Reference sheet

Again, I gathered and arranged a bunch of images, to get an idea and inspiration where to go with the piece (picture 34). I wanted to have a foggy environment and a bit unsettling feeling to the image, so I searched for images with a similar type of mood

that I would like to have in the image. Also for the texture of the creature I looked at different plants and animals, and a gray whale skin covered with barnacles looked something that could fit nicely with the character, or at least work as an inspiration for it.



PICTURE 34. Reference sheet of images: Untitled Photo (Joe's Blog, foggy fall morning 2008), Magic The Gathering: Fell Shepherd (Brad Rigney, 2013), Foggy Forest 2 (Banana-Workshop, 2007), (Makkerin blogi, Hämmäauteensuo 2014), Pitcher Plant at the Green Swamp (Dick and Sandy's World), Gray Whale skin with barnacles and sea lice (Hiroya Minakuchi, Minden Pictures, National Geographic Creative).

4.2.7 Painting

The painting process was very similar than with the previous painting. I started with painting in grayscale again, getting the basic values and the composition working first (picture 35).



PICTURE 35. Grayscale painting

After having the composition and the values down, I started to lay in some colors, do some adjustments and painting over (picture 36).



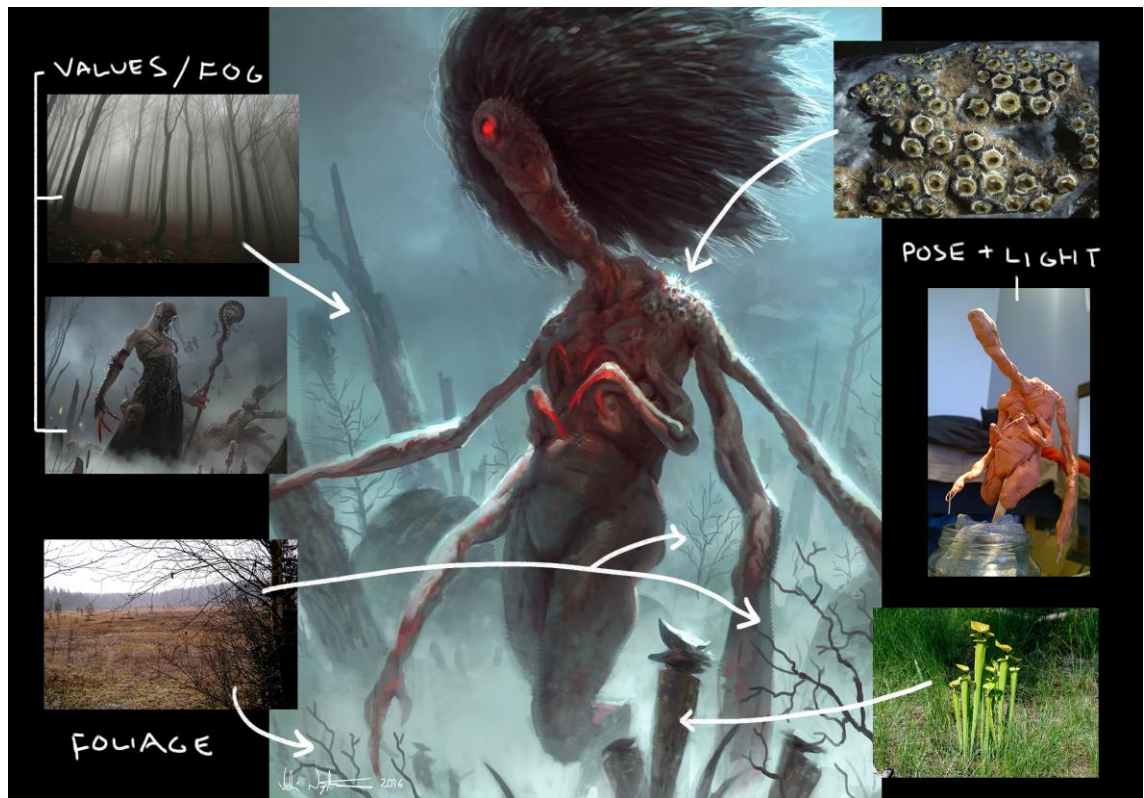
PICTURE 36. Added colors and overpainting

The rest of making the image consisted of adjustments and a lot of painting over, until I felt the painting was complete (picture 37).



PICTURE 37. The final painting

As with the other painting, you can see how I used reference with this one (picture 38). I used the reference for subject matter such as the trees and foliage, but also for texture on the creature's shoulder, and the photo of the sculpt for the light and pose.



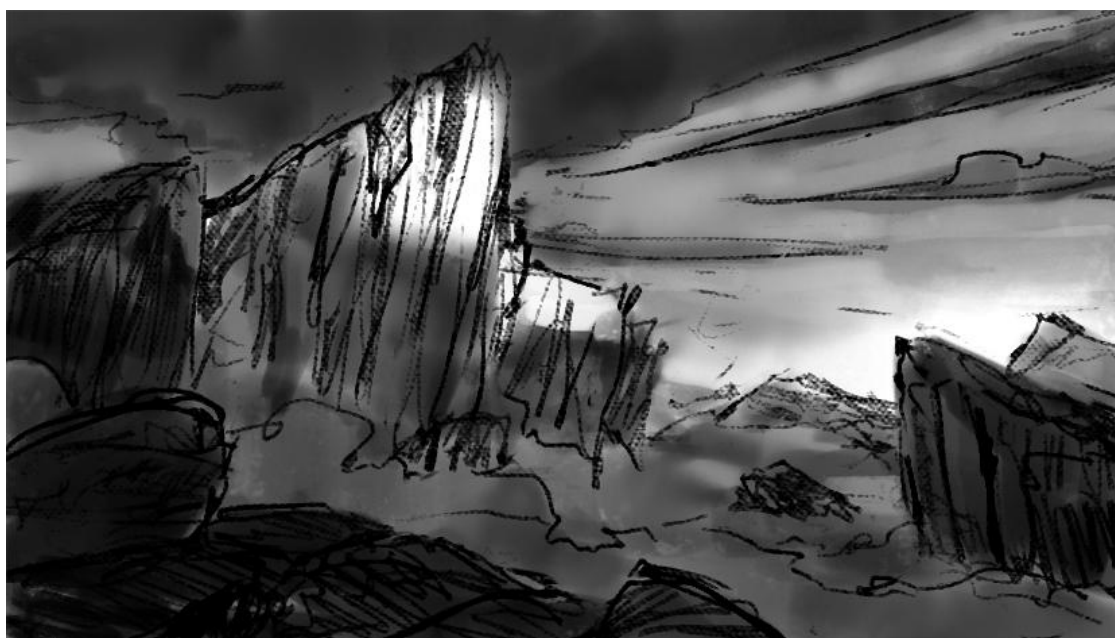
PICTURE 38. Reference used for the painting

4.3 Painting 3: Mountains

In the final painting, I wanted to try out photo bashing. I have used photos in some of my works before, so I have experience in it, but not too much. It is also a widely used method especially in visual development, so I thought it could be interesting because of that, but also because the workflow is a bit different when using already existing information as a part of the final painting.

4.3.1 Sketch

I started just by sketching in Photoshop. I decided to do an environment painting this time and I love mountains, so I chose that as the theme. With the sketch I wanted to focus in the composition, and I thought I could achieve this by guiding the eye with other elements to the mountain top, and highlighting that area with early morning light, while keeping other parts of the image in shadow. I made a rough line art first, and then painted the gray values in to get the idea of the lighting down (picture 39).



PICTURE 39. Value sketch

4.3.2 Gathering reference

I gathered resources from the internet, reference images of mountains by searching them in Google with the words ‘mountains’ and ‘morning’ (picture 40). I also went to

textures.com website to download some free photos that I would be using in the painting (picture 41).



PICTURE 40. Reference for moods: Untitled photo (123hdwallpapers.com, nature HD wallpapers 2015), Sunrise on the Brother's (Namajamphotography.com, 2013), Olympic mountains in the morning 2013), Ear Mountain Morning, Montana (J.P. Bell, jpbellphotography.com), Clear morning sunrise (Quest Himalaya Adventures)



PICTURE 41. Reference for photo bashing (textures.com)

4.3.3 Colors

I felt that the mood in one of the reference photos was great, so I decided to go for similar colors in my painting. I painted over the image with a layer set on color layer mode to get a good base for the colors (picture 42). I made another version without the yellow color of the light (picture 43), because most of the image would be in shadow and when using Match Color function in Photoshop with the photos, it could pick colors that I would not want it to pick. This is something I knew from previous experience when using that function.



PICTURE 42. Color base



PICTURE 43. Color base without yellow to be used with Match Color function

4.3.4 Photo bashing

Before going any further with painting, I started to put in the photos I downloaded before (picture 44). I made selections for each levels of depth, so I would easily be able to modify the layers and the areas in between them. Then I copied the photos and transformed them to fit the areas nicely, and for each photo I used Match Color function in Photoshop, and the color layer I had made before acted as the reference for that function. I also used Curves adjustment layer and Hue & Saturation function to adjust the photos more if needed.



PICTURE 44. Photo base for the painting

4.3.5 Painting

After I had put in all the photos, I started to paint over the different areas of the painting. The photos looked very flat to me, so by using multiply layer mode I painted some shadows in to create more form to the elements and painting on normal layer mode on top of that. I also added some fog in between the different levels of depth in the image, to separate them a bit from each other (picture 45).



PICTURE 45. Overpainted version

When I had the main values and colors in, I started to add light to the selections. I did this by using Curves adjustment layer and layer set on Color Dodge layer mode (picture 46).



PICTURE 46. Overpainted version with added light

At this point I felt that the image was turning out alright for what it was, but the subject matter was too boring. I took some time to think about how to make it more interesting,

and decided to add a weird looking sculpture to the mountain wall. It could be an alien structure or possibly the entrance to the lair of a god of wind, or something else.

I continued to paint in more details like the sculpture, plants and birds and refining the image in general until I was happy with the outcome (picture 47).



PICTURE 47. The final painting

In the image below (picture 48), you can see the photos used for various parts of the image and some which were used for only to act as reference to the mood, values and color.



PICTURE 48. Reference used for the painting

As a method for fast results, photo bashing seems like a very good option. It helps with creating visual noise and details to the image that would otherwise take a longer time if one would just paint everything. There is however a big difference in the look of painting by hand and using photos, so it might be problematic sometimes to get everything fit together, as photos have so much information in them what comes to colors, values and variation. It also depends a lot on the type of work that is wanted, as photo bashing provides so much detail it might not be suitable for very stylised or cartoony artwork, but for realistic or towards that it definitely makes it easier and faster.

4.4 Analysis and thoughts

As I mentioned before, I have not used that much reference when working, especially when doing personal paintings.

I only tried few of the methods that can be used when working with reference, but I think I will try out more in the future and try to get used to it. It was surprisingly difficult and a lot of work for me, and I feel it requires some practice and patience to find the right reference but when it is found, it can be very beneficial. And of course, when doing more of that it probably gets easier and faster too.

The process was slower than what I'm used to, but when it comes to creating a likeness or convincing pose or expression, reference can help a lot. It was interesting to notice that I used some of the reference much more and others, only a little or not at all.

To compare the methods, I feel all have their uses. Dressing up and acting as the character was very fun in itself, and you can find a lot of different characters and poses you start experimenting and just changing your gesture. I tend to have similar poses for characters when working from imagination, but being the model yourself you can find much more interesting, yet natural poses. Also, you get a lot of small details that can be used, like how the clothing wraps around your body, facial expression, hands, how skin stretches and so on. I feel that this technique is something I will use and experiment with in the future.

The workflow with the creature sculpt was a bit different, but it has its own perks for sure. It was much easier to move around the camera and to change the lighting, when the scale is smaller and you can move everything as you wish. So getting a good angle and an interesting light, plus creating something that doesn't exist in this world and getting reference for that exact thing was great. This method needs a bit more planning, as you need to know what to sculpt what comes to the subject and the gesture, and the pose could not be changed afterwards, while modelling yourself you could search and experiment more on the gesture and the character and get inspired by that. Still, I imagine if I did a larger setup with a simple environment and many characters or objects, it could be quite useful to get the perspective and light correct and see how the objects interact with each other. There is of course also the option to sculpt digitally or create 3D models with computer software, pose and light them which might be easier, especially when an artist is more familiar with those tools.

With photo bashing, probably the most obvious difference between these methods is that you are using already existing information in the actual image, rather than looking at reference, studying it and producing the artwork from scratch. When working this way, it feels a lot of the time goes for adjusting the photos and trying to bind everything together when comparing it to painting everything, as the lighting might be different in the photos, the colors need some tweaking and so on. The result too is quite different, as there is a lot of visual noise coming from the photos, mixed with painterly strokes. Still, I feel it is a good tool for getting ideas down quickly and also when working on realistic images or with short deadlines, so there is no wonder why it is used a lot in various productions.

5 CONCLUSION

In a way, everyone uses reference in some form; be it from a model, photo, other artwork or just one's own memory and experience.

Reference can help out a lot when planning and executing a painting, because it gives you a better idea and some guidelines how to proceed. It can also aid with creating a better likeness of whatever is the subject or subjects of the painting.

An important thing to remember is when using reference, is to try and avoid copying, especially if the reference that was used is someone else's work. If the work resembles too much the source that is used to create that work, it can lead to unpleasant consequences, such as getting fired from a company, fines or a prison sentence.

Using reference can be quite laborious, especially for a person like myself, who is not used to it, because it slows down the process in the beginning. I am used to just start a painting and work on it until I reach the outcome I want to, but sometimes that can take a lot of time if I do not know exactly what I want to create or how to do it. In that sense reference can be very helpful, and especially on the areas that an artist is not so comfortable with, or the reference or the lack of it in one's memory is not enough to convey the idea.

Also, as seen in the examples and different methods in this thesis, there are a lot of different ways to use reference. An artist needs to find the suitable way for him or herself to use reference, and that can vary a lot. Some people use it in a very specific way, getting everything down as close as they can when planning a painting, some people use bits of reference here and there and others work completely from their memory. That can depend a lot on the personal experiences of the person, and also the personal preferences on the method he or she decides to use. If an artist has a lot of experience with 3D, I would imagine getting a good base for painting in 3D would require less effort and time from him or her, than from a completely beginner artist who has worked only a little or not at all with 3D. So, again, personal viewpoint and skill level can affect a lot how laborious and time consuming a certain method can be.

In my own work, I feel using reference brought more life and believability to the paintings. It is also very useful to be able to try out different lighting, poses and camera angles to get the best possible outcome for the particular piece one is doing. And as mentioned before, getting the more difficult parts right or better than you would without reference. Still, I need to practice using reference, spend more time with planning and searching for good resources.

I hope that this thesis will educate, inspire and encourage anyone reading it to try out different methods of using reference, especially if one has not used reference before in a more planned way. It can provide useful what comes to learning, be otherwise interesting and lead to personal discoveries and possibly help in finding the best way to approach certain tasks and subjects when creating a digital painting.

REFERENCES

- 3D Concept Art. 2015. Useful tools and techniques for concepting, Photo bashing. Website. Read 22.8.2016 <http://magazine.3dconceptart.com/2015/08/18/useful-tools-and-techniques-for-concepting/>
- Anttila, E. 2004. Edelfelt – Matkoja, maisemia ja naamiaisia. Porvoo: WS Bookwell Oy
- Bakutyte, J. 2014. Beautiful Decay, Norman Rockwell's Reference Photos For His Iconic Paintings Revealed. Website. <http://beautifuldecay.com/2014/08/22/norman-rockwells-reference-photos-iconic-paintings-revealed/>
- Blizzard, 2016. Blizzard, Careers, Art & Animation. Website. <http://us.blizzard.com/en-us/company/careers/roles/art-animation.html>
- Camera Obscura. 2016. The Camera Obscura in History. Website. <http://www.obscurajournal.com/history.php>
- Civardi, G. 2009. Drawing – A Complete Guide. Wellwood, Great Britain: Search Press Limited.
- Ejsing, J. 2015. Muddy Colors, Kim Jung Gi in Angouleme. Blog. <http://muddycolors.blogspot.fi/2015/02/by-jesper-ejsing-in-angouleme-in-france.html>
- Finlex. Tekijänoikeuslaki, chapter 1 § 4, Teoksen muuntelu ja muuttaminen. Website. Read 3.4.2016 <http://www.finlex.fi/fi/laki/ajantasa/1961/19610404>
- Finlex. Tekijänoikeuslaki, chapter 4 § 43, Tekijänoikeuden suoja-aika. Website. Read 21.8.2016 <http://www.finlex.fi/fi/laki/ajantasa/1961/19610404#L3P41>
- Giancola, D. 2012. Muddy Colors, Roman Legionnaires - It's All in the Reference. Blog. <http://muddycolors.blogspot.fi/2012/12/roman-legionnaires-its-all-in-reference.html>
- Gurin, A. 2015. 3Dtotal, Making the 'Mountain'. Website, tutorial. <http://www.3dtotal.com/tutorial/2113-making-the-mountain-photoshop-by-arthur-gurin-concept-art-of>
- Gurney, J. 2011. Gurney Journey, My Preference for Reference. Blog. <http://gurneyjourney.blogspot.fi/2011/05/my-preference-for-reference.html>
- Gurney, J. 2011. Gurney Journey, Riding a Pterosaur <http://gurneyjourney.blogspot.fi/2011/11/riding-pterosaur.html>
- Gurney, J. 2009. Imaginative Realism. 1st edition. Kansas City, Missouri: Andrews McMeel Publishing

Hills, S. 2013. Daily Mail, Hundreds of years ahead of his time: Leonardo da Vinci's extraordinarily detailed anatomical drawings show he was more than a match for today's medical technology. Website. Read 30.8.2016 <http://www.dailymail.co.uk/news/article-2383273/Leonardo-da-Vincis-drawings-100s-years-ahead-time.html>

Jordan, C. 2015. Artist Daily, How to Avoid the Pitfalls of Painting from Photographs. Blog. <http://www.artistdaily.com/blogs/artist-daily/how-to-avoid-the-pitfalls-of-painting-from-photographs>

Kohr, M. 2011. Digital Painting - Using Reference Materials. Video. 10.10.2011. <http://vimeo.com/30341760>

Lautjärvi, S. 2012. Sketchup artists, Making an Environment Concept from a 3D Base. Tutorial. <http://www.sketchupartists.org/tutorials/sketchup-and-kerkythea/making-an-environment-concept-from-a-3d-base/>

Lieu, C. 2013. Art Prof, Ask the Art Prof: When and How Should You use Photo References to Draw?. Blog. <https://claralieu.wordpress.com/2013/08/22/ask-the-art-professor-when-and-how-you-should-use-photo-references-to-draw-2/>

Markkanen, K. Vihavainen, S. 2013. Helsingin Sanomat, Marimekko fabric design is copy of another work from 1963. Article. Read 27.12.2015 <http://www.hs.fi/kulttuuri/a1369811054209>

Mateu-Mestre, M. 2010. Framed Ink, Third printing, first edition. Culver City, California: Design Studio Press

Mazgal, A. 2016. Communia Association, The right to think is the right to quote - #fixcopyright with wide quotations exception!. Article. Read 22.8.2016 <http://www.communia-association.org/2016/07/08/quotations-bcs-copyright/>

Oxford Dictionaries, Reference, Text. Read 5.2.2016 <http://www.oxforddictionaries.com/definition/english/reference>

Panepinto, L. 2014. Muddy Colors, Artist Selfies: Everybody's Doing It. Blog. <http://muddycolors.blogspot.fi/2014/01/artist-selfies-everybodys-doing-it.html>

Parker, C. 2006. Lines and Colors, sparth construct (Nicolas Bouvier). Blog. Read 31.8.2016 <http://linesandcolors.com/2006/01/11/sparth-construct-nicolas-bouvier/>

Robertson, S. 2013. How to Draw, Drawing and Sketching Objects and Environments from Your Imagination, first edition. Culver City, California: Design Studio Press

Steadman, P. 2011. BBC, Vermeer and the Camera Obscura. Article. Read 1.4.2016.
http://www.bbc.co.uk/history/british/empire_seapower/vermeer_camera_01.shtml

The Design and Artists Copyright Society. Collages, Text. Read 3.4.2016
<https://www.dacs.org.uk/knowledge-base/factsheets/copyright-in-collages#other>

Wands, B. 2006. Art of the Digital Age. London, United Kingdom: Thames & Hudson Ltd

Wikipedia. Lascaux. Website. Read 30.8.2016 <https://en.wikipedia.org/wiki/Lascaux>

Wikipedia. Reference. Website. Read 16.1.2015 <https://en.wikipedia.org/wiki/Reference>

Wikipedia. Tekijänoikeuden loukkaus. Website. Read 28.12.2015
https://fi.wikipedia.org/wiki/Tekij%C3%A4noikeuden_loukkaus